

09/21/98

=> s thermochromic

L1 1824 THERMOCHROMIC

=> s protective layer

111473 PROTECTIVE  
688531 LAYER

L2 11084 PROTECTIVE LAYER  
(PROTECTIVE (W) LAYER)

=> s l1 and l2

L3 8 L1 AND L2

=> s l3 and (acrylate or acrylic)

113654 ACRYLATE  
157687 ACRYLIC

L4 1 L3 AND (ACRYLATE OR ACRYLIC)

=> d l4

L4 ANSWER 1 OF 1 CA COPYRIGHT 1999 ACS

AN 123:114706 CA

TI **Thermochromic** decorative materials with good lightfastness

IN Shibahashi, Yutaka; Yasuda, Michuki; Fujita, Katsuyuki

PA Pilot Ink Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07125130	A2	19950516	JP 1993-293904	19931029

=> d l3 1-8

L3 ANSWER 1 OF 8 CA COPYRIGHT 1999 ACS

AN 130:230039 CA

TI **Thermochromic** imaging material, imaging method and imaging apparatus

IN Takahashi, Takao; Kamaya, Naoki

PA Sony Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11058985	A2	19990302	JP 1997-231521	19970827

L3 ANSWER 2 OF 8 CA COPYRIGHT 1999 ACS

AN 124:131621 CA  
 TI Erasable display medium  
 IN Akutsu, Eiichi; Soga, Hiroh; Ando, Shigehito; Hirakata, Susumu; Maruyama, Kazuo  
 PA Fuji Xerox Co., Ltd., Japan  
 SO U.S., 11 pp. Continuation of Ser. No. US 92-995336, filed on 23 Dec 1992, now aban  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5466654	A	19951114	US 1994-284999	19940803
	JP 05169800	A2	19930709	JP 1991-355579	19911224
	JP 2730371	B2	19980325		
PRAI	JP 1991-355579		19911224		

L3 ANSWER 3 OF 8 CA COPYRIGHT 1999 ACS  
 AN 124:119525 CA  
 TI Thermo-reversible recording sheets for overhead projection  
 IN Takemoto, Shinya  
 PA Mitsubishi Plastics Ind, Japan  
 SO Jpn. Kokai Tokkyo Koho, 3 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07276817	A2	19951024	JP 1994-76969	19940415

L3 ANSWER 4 OF 8 CA COPYRIGHT 1999 ACS  
 AN 123:114706 CA  
 TI **Thermochromic** decorative materials with good lightfastness  
 IN Shibahashi, Yutaka; Yasuda, Michuki; Fujita, Katsuyuki  
 PA Pilot Ink Co Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07125130	A2	19950516	JP 1993-293904	19931029

L3 ANSWER 5 OF 8 CA COPYRIGHT 1999 ACS  
 AN 121:289780 CA  
 TI Reversible **thermochromic** recording medium  
 IN Goto, Hiroshi  
 PA Ricoh Kk, Japan  
 SO Jpn. Kokai Tokkyo Koho, 22 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06008624	A2	19940118	JP 1992-191643	19920625

L3 ANSWER 6 OF 8 CA COPYRIGHT 1999 ACS  
 AN 111:118208 CA  
 TI Battery tester including **thermochromic** material  
 IN Hanakura, Niichi; Nagaoka, Ryuichiro  
 PA Japan

SO U.S., 10 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4835475	A	19890530	US 1987-105359	19871007
	DE 3738731	A1	19880526	DE 1987-3738731	19871114
PRAI	JP 1986-176372		19861117		
	JP. 1987-6353		19870120		
	JP 1987-102350		19870424		

L3 ANSWER 7 OF 8 CA COPYRIGHT 1999 ACS  
AN 105:162302 CA  
TI Thermal recording materials  
IN Yokoi, Naoki; Aota, Koichi  
PA Fuji Xerox Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61089084	A2	19860507	JP 1984-209846	19841008

L3 ANSWER 8 OF 8 CA COPYRIGHT 1999 ACS  
AN 93:159126 CA  
TI Preparation and application of cholesterol type liquid crystal microcapsule membrane  
CS Academia Sinica, Inst. Biophys., Peking, Peop. R. China  
SO Sheng Wu Hua Hsueh Yu Sheng Wu Wu Li Chin Chan (1979), 30, 64-7  
CODEN: SHYCD4  
DT Journal  
LA Chinese

=> d 13 1-8 abs

L3 ANSWER 1 OF 8 CA COPYRIGHT 1999 ACS  
AB The **thermochromic** imaging material comprises a transparent, heat-resistant plastic substrate, a thermal recording layer capable of transforming between a transparent state and an opaque state upon heat application, an optical reflection layer, and a **protective layer** facing a thermal head.

L3 ANSWER 2 OF 8 CA COPYRIGHT 1999 ACS  
AB A display medium is disclosed, comprising at least the following layers, in this order: a heating resistive layer, a conductive layer, a background layer and an erasable **thermochromic** layer, and comprising a heating resistive layer which may comprise at least two layers. The display medium may also comprise a contact resistance reducing layer on the heating resistive layer and a **protective layer** on the erasable **thermochromic** layer.

L3 ANSWER 3 OF 8 CA COPYRIGHT 1999 ACS  
AB The title recording sheets comprise a metal reflective layer, a releasing adhesive layer, a transparent support layer, a **thermochromic** recording layer which reversibly changing between transparent state and opaque state according to the temp., and a **protective layer**.

L3 ANSWER 4 OF 8 CA COPYRIGHT 1999 ACS

AB The title materials such as drapery have a **thermochromic** layer, a coating layer contg. metallic pigments, TiO<sub>2</sub>, iron oxide, cesium oxide or/and Zn oxide, and optionally a **protective layer** contg. light stabilizers where the **thermochromic** layer is derived from electron-donating type org. color-developing compds. and electron-accepting compds. Thus, rotary-screen printing a white polyester

fabric with a compn. contg. com. **thermochromic** substances (no data) 30, acrylate ester resin emulsion 70, and crosslinker 1 part, and covering on top with a compn. contg. Iriodin 225 10, acrylic ester resin 40, silicone defoaming agent 0.5, Bu acetate 20 and arom. medium-boiling-point solvent 15 parts gave a decorative fabric useful as curtain with good lightfastness.

L3 ANSWER 5 OF 8 CA COPYRIGHT 1999 ACS

AB In the title medium comprising an electron-donor chromogenic compd. and an

electron-acceptor compd. on a support as recording layer which renders color on heating and melting and changes its color from colored to colorless upon heating and melting at a temp. lower than the coloring temp., an interlayer 1-5.μm is interposed between the recording layer and a **protective layer**, the interlayer being based on a water-base resin and the **protective layer** being based on an oil-base resin. The medium showed improved heat resistance, durability, and extended service life.

L3 ANSWER 6 OF 8 CA COPYRIGHT 1999 ACS

AB The tester for indicating the emf. of a dry-cell battery comprises a film substrate, an elec. conductive layer on 1 side of the substrate, a **protective layer** on the conductive layer, and a **thermochromic** layer on the other side of the substrate. Preferably, the cond. of the conductive layer varies from its center portion to its terminal portions, and the **thermochromic** layer consists of segments which change color at different temps. To test the emf. of a dry-cell battery, the conductive layer is made to contact both electrodes of the battery, and the emf. is indicated by the color change of the **thermochromic** layer.

L3 ANSWER 7 OF 8 CA COPYRIGHT 1999 ACS

AB The claimed thermal recording materials, based on a **thermochromic** compn., contain a dye or pigment in the recording layer or in a top (**protective**) **layer** so that the reflection characteristics of the image area and nonimage area (after recording) are the same or similar to each other. Although the recorded images are visible, further photocopying is prevented.

L3 ANSWER 8 OF 8 CA COPYRIGHT 1999 ACS

AB A heat-sensitive film contg. microencapsulated liq. crystals is described.

The film undergoes color change upon temp. variation or heating caused by absorption of radiation and is suitable for use as temp. sensors, decoration cards, advertisement boards, and detectors of microwave, IR, and laser radiations. Thus, a soln. of a mixt. of cholesteryl nonanoate, cholesteryl benzoate, and alkenyl cholesteryl carbonate was microencapsulated using gelatin and gum arabic, coated on a heat-absorbing

black film support, and overcoated with a nitrocellulose **protective layer** to give a **thermochromic** film.

\*  
\* \* \* \* \*

=> s thermochromic

L1 836 THERMOCHROMIC

=> s liquid crystal?

631196 LIQUID  
330217 CRYSTAL?  
L2 47041 LIQUID CRYSTAL?  
(LIQUID(W) CRYSTAL?)

=> s l1 and l2

L3 301 L1 AND L2

=> s protective layer

194443 PROTECTIVE  
567656 LAYER  
L4 25211 PROTECTIVE LAYER  
(PROTECTIVE(W) LAYER)

=> s l3 and l4

L5 61 L3 AND L4

=> s l5 and acrylate

70789 ACRYLATE  
L6 15 L5 AND ACRYLATE

=> d l6 1-15

1. 5,532,373, Jul. 2, 1996, Aluminate complex and use thereof in photopolymerizable composition and image-forming material; Hirotaka Matsumoto, et al., 546/4; 430/281.1, 332; 544/4, 64, 181, 225; 546/8; 548/103, 107, 402; 549/3, 209, 212; 556/170, 175, 176, 181, 182 [IMAGE AVAILABLE]

2. 5,296,331, Mar. 22, 1994, Image receiving material containing particles of thermoplastic compound; Keiichi Taguchi, 430/253; 427/180, 195; 428/206, 304.4, 308.4, 315.7, 407; 430/138, 203, 207, 213, 254, 255; 503/207, 214 [IMAGE AVAILABLE]

3. 5,124,236, Jun. 23, 1992, Photopolymerizable composition; Jun Yamaguchi, et al., 430/281.1, 914, 920, 921; 522/26, 27, 28 [IMAGE AVAILABLE]

4. 5,045,427, Sep. 3, 1991, Photographic material containing non-photosensitive silver salt; Hiroshi Hara, 430/138, 203, 351, 617, 619 [IMAGE AVAILABLE]

5. 5,038,166, Aug. 6, 1991, Optical image recording apparatus; Kazuo Isaka, et al., 347/225; 355/405 [IMAGE AVAILABLE]

6. 5,011,760, Apr. 30, 1991, Photopolymerizable composition; Jun Yamaguchi, et al., 430/281.1, 914, 915, 920; 522/31, 63 [IMAGE AVAILABLE]
7. 4,963,458, Oct. 16, 1990, Image forming method and material using photopolymerizable composition; Shunichi Ishikawa, et al., 430/138, 200, 254, 293, 328, 330, 348, 349, 964; 503/214 [IMAGE AVAILABLE]
8. 4,952,480, Aug. 28, 1990, Photopolymerizable composition; Jun Yamaguchi, et al., 430/281.1, 914, 915; 522/31, 63 [IMAGE AVAILABLE]
9. 4,912,011, Mar. 27, 1990, Image-recording method comprising heating a light-sensitive material containing microcapsule; Soichiro Yamamoto, et al., 430/138, 203, 253, 254, 281.1, 292, 617; D8/1 [IMAGE AVAILABLE]
10. 4,902,604, Feb. 20, 1990, Photopolymerizable composition containing salts of organic cationic dyes and organic boron compounds; Jun Yamaguchi, et al., 430/281.1, 138, 339, 341, 495.1, 914, 916, 927; 544/251, 345; 548/152, 217, 302.1, 302.7 [IMAGE AVAILABLE]
11. 4,902,599, Feb. 20, 1990, Light-sensitive material; Soichiro Yamamoto, et al., 430/138, 203, 264, 281.1, 617, 619, 620, 964 [IMAGE AVAILABLE]
12. 4,792,514, Dec. 20, 1988, Light-sensitive material; Taku Nakamura, et al., 430/138, 203, 264, 351, 559, 617, 619, 620, 964 [IMAGE AVAILABLE]
13. 4,629,676, Dec. 16, 1986, Image forming method; Yoshihide Hayakawa, et al., 430/203, 199, 292, 325, 330, 351 [IMAGE AVAILABLE]
14. 4,421,560, Dec. 20, 1983, Thermochromatic materials; Tutomu Kito, et al., 106/31.2, 31.22, 31.33; 427/150, 151 [IMAGE AVAILABLE]
15. 4,028,118, Jun. 7, 1977, **Thermochromic** materials; Norikazu Nakasuji, et al., 106/31.19; 428/29, 199, 913; 434/328; 503/209, 217, 220, 221 [IMAGE AVAILABLE]

=> d 15 1-61

1. 5,925,480, Jul. 20, 1999, **Thermochromic** battery tester; James H. Shacklett, III, et al., 429/93; 324/427, 435 [IMAGE AVAILABLE]
2. 5,922,996, Jul. 13, 1999, Electrical insulated cable having means for indicating malfunctions; John J. Ryczek, 174/112; 116/207 [IMAGE AVAILABLE]
3. 5,867,028, Feb. 2, 1999, Battery tester having sections of different resistivity; John C. Bailey, 324/435; 320/DIG.18; 324/104; 359/273; 429/93 [IMAGE AVAILABLE]
4. 5,857,709, Jan. 12, 1999, Anticounterfeit documentation with see-through and write-able hologram; Ernest P. Chock, 283/86, 58; 359/2 [IMAGE AVAILABLE]
5. 5,841,285, Nov. 24, 1998, Temperature-compensated **thermochromic** battery tester; John C. Bailey, 324/435; 116/216; 320/DIG.18; 324/104; 359/273; 374/162; 429/93 [IMAGE AVAILABLE]
6. 5,837,647, Nov. 17, 1998, Reversible thermal recording medium; Niro Watanabe, et al., 503/201; 427/150, 152; 503/215, 216, 226 [IMAGE AVAILABLE]
7. 5,837,646, Nov. 17, 1998, Reversible thermal recording medium; Niro Watanabe, et al., 503/201, 215, 216, 226 [IMAGE AVAILABLE]

8. 5,837,348, Nov. 17, 1998, Reversible thermal recording medium and method of producing the same; Niro Watanabe, et al., 427/150, 152; 503/201, 215, 216, 226 [IMAGE AVAILABLE]
9. 5,830,596, Nov. 3, 1998, Method for producing battery tester label and resulting label and battery assembly; Victor H. Weiss, et al., 429/93; 324/425; 429/90 [IMAGE AVAILABLE]
10. 5,789,100, Aug. 4, 1998, Battery with strength indicator; James R. Burroughs, et al., 429/90; 324/435; 429/92, 93 [IMAGE AVAILABLE]
11. 5,766,518, Jun. 16, 1998, Light modulating materials; Takafumi Ishii, 252/582, 299.01 [IMAGE AVAILABLE]
12. 5,760,588, Jun. 2, 1998, Dual rate **thermochromic** battery tester; John C. Bailey, 324/435, 104; 359/273; 429/93 [IMAGE AVAILABLE]
13. 5,737,114, Apr. 7, 1998, Label having an incorporated electrochromic state-of-charge indicator for an electrochemical cell; John C. Bailey, 359/268, 265, 266, 267, 269, 270, 271, 272, 273, 274 [IMAGE AVAILABLE]
14. 5,712,066, Jan. 27, 1998, Image forming method, recording medium, and visible image reproducing method; Kazuo Yoshinaga, et al., 430/20; 349/21, 25, 183; 365/108; 430/902 [IMAGE AVAILABLE]
15. 5,709,962, Jan. 20, 1998, Cell tester device employing spaced apart electrochromic electrodes; John C. Bailey, 429/93; 324/435 [IMAGE AVAILABLE]
16. 5,672,559, Sep. 30, 1997, Reversible thermal recording medium and method of producing the same; Niro Watanabe, et al., 503/201, 204, 215, 226 [IMAGE AVAILABLE]
17. 5,672,440, Sep. 30, 1997, Cell tester device employing a cathodically depositable metal ion electrolyte solution; John C. Bailey, 429/93; 361/505, 526 [IMAGE AVAILABLE]
18. 5,658,845, Aug. 19, 1997, Reversible thermal recording medium and method of producing the same; Niro Watanabe, et al., 503/201, 215, 226 [IMAGE AVAILABLE]
19. 5,654,640, Aug. 5, 1997, Cell tester device employing a printed transparent electrically conductive electrode; John C. Bailey, 324/435, 104; 429/93 [IMAGE AVAILABLE]
20. 5,637,551, Jun. 10, 1997, Reversible thermal recording medium and method of producing same; Niro Watanabe, et al., 503/215, 201, 226 [IMAGE AVAILABLE]
21. 5,626,978, May 6, 1997, Method for securing a tester device to a battery and the battery so produced; Victor H. Weiss, et al., 429/93; 324/345; 429/90, 92 [IMAGE AVAILABLE]
22. 5,617,849, Apr. 8, 1997, Respirator having **thermochromic** fit-indicating seal; James E. Springett, et al., 128/206.24, 201.23, 202.22, 205.25, 206.14, 206.21, 206.28 [IMAGE AVAILABLE]
23. 5,616,416, Apr. 1, 1997, Method and display panel for displaying color image; Chiseki Yamaguchi, 428/411.1, 1.6, 195, 206, 420, 484, 692, 913 [IMAGE AVAILABLE]
24. 5,604,049, Feb. 18, 1997, Battery with tester label and method for producing it; Victor H. Weiss, et al., 429/93; 324/345, 435; 429/90, 91, 92 [IMAGE AVAILABLE]

25. 5,538,806, Jul. 23, 1996, Battery with tester label and method for producing it; Victor H. Weiss, et al., 429/90; 324/435; 429/91, 92, 93 [IMAGE AVAILABLE]
26. 5,532,373, Jul. 2, 1996, Aluminate complex and use thereof in photopolymerizable composition and image-forming material; Hirotaka Matsumoto, et al., 546/4; 430/281.1, 332; 544/4, 64, 181, 225; 546/8; 548/103, 107, 402; 549/3, 209, 212; 556/170, 175, 176, 181, 182 [IMAGE AVAILABLE]
27. 5,527,650, Jun. 18, 1996, Image forming method recording medium and visible image reproducing medium; Kazuo Yoshinaga, et al., 430/20; 346/135.1; 349/22, 113, 116, 181; 365/108; 430/281.1, 945 [IMAGE AVAILABLE]
28. 5,524,381, Jun. 11, 1996, Solar heated building designs for cloudy winters; Day Chahroudi, 47/17; 52/1, 173.3; 126/572, 622, 635, 643 [IMAGE AVAILABLE]
29. 5,429,393, Jul. 4, 1995, Identification tag; Daniel J. Parlo, 283/75; 40/300, 642.02, 661; 283/108, 109 [IMAGE AVAILABLE]
30. 5,418,086, May 23, 1995, Battery with coulometric state of charge indicator; John C. Bailey, 429/93, 91, 162, 219, 220, 312, 318 [IMAGE AVAILABLE]
31. 5,413,822, May 9, 1995, Article of plastic material at least a part of the outer surface of which is decorated; Michel Rey, 428/1.25; 63/3; 368/242; 428/1.54, 203 [IMAGE AVAILABLE]
32. 5,409,788, Apr. 25, 1995, Method for securing a tester device to a battery and the battery so produced; Victor H. Weiss, et al., 429/93; 324/345, 435; 429/90, 91, 92 [IMAGE AVAILABLE]
33. 5,403,039, Apr. 4, 1995, Tamper-resistant article and method of authenticating the same; Joseph C. Borowski, Jr., et al., 283/87, 93, 94, 903; 349/1; 359/288 [IMAGE AVAILABLE]
34. 5,393,618, Feb. 28, 1995, Battery with tester label and method for producing it; Victor H. Weiss, et al., 429/90; 324/435; 429/93 [IMAGE AVAILABLE]
35. 5,389,458, Feb. 14, 1995, Battery with tester label and method for producing it; Victor H. Weiss, et al., 429/90; 324/425, 427 [IMAGE AVAILABLE]
36. 5,296,331, Mar. 22, 1994, Image receiving material containing particles of thermoplastic compound; Keiichi Taguchi, 430/253; 427/180, 195; 428/206, 304.4, 308.4, 315.7, 407; 430/138, 203, 207, 213, 254, 255; 503/207, 214 [IMAGE AVAILABLE]
37. 5,231,505, Jul. 27, 1993, Rewritable recording display apparatus and method of erasing record; Niro Watanabe, et al., 358/296; 346/21, 139A; 347/172, 179 [IMAGE AVAILABLE]
38. 5,223,003, Jun. 29, 1993, Process for preparing a battery tester label; Gary R. Tucholski, et al., 29/623.4, 623.5; 429/93 [IMAGE AVAILABLE]
39. 5,193,854, Mar. 16, 1993, Tamper-resistant article and method of authenticating the same; Joseph C. Borowski, Jr., et al., 283/87, 93, 94, 902, 903; 349/199; 359/288 [IMAGE AVAILABLE]
40. 5,124,819, Jun. 23, 1992, **Liquid crystal** medical device having distinguishing means; Frederick Davis, 349/199, 58, 89, 92 [IMAGE AVAILABLE]



AVAILABLE]

41. 5,124,236, Jun. 23, 1992, Photopolymerizable composition; Jun Yamaguchi, et al., 430/281.1, 914, 920, 921; 522/26, 27, 28 [IMAGE AVAILABLE]

42. 5,058,999, Oct. 22, 1991, **Liquid crystal** device having distinguishing means; Frederick Davis, 349/197, 74; 600/438 [IMAGE AVAILABLE]

43. 5,045,427, Sep. 3, 1991, Photographic material containing non-photosensitive silver salt; Hiroshi Hara, 430/138, 203, 351, 617, 619 [IMAGE AVAILABLE]

44. 5,038,166, Aug. 6, 1991, Optical image recording apparatus; Kazuo Isaka, et al., 347/225; 355/405 [IMAGE AVAILABLE]

45. 5,011,760, Apr. 30, 1991, Photopolymerizable composition; Jun Yamaguchi, et al., 430/281.1, 914, 915, 920; 522/31, 63 [IMAGE AVAILABLE]

46. 4,963,458, Oct. 16, 1990, Image forming method and material using photopolymerizable composition; Shunichi Ishikawa, et al., 430/138, 200, 254, 293, 328, 330, 348, 349, 964; 503/214 [IMAGE AVAILABLE]

47. 4,952,480, Aug. 28, 1990, Photopolymerizable composition; Jun Yamaguchi, et al., 430/281.1, 914, 915; 522/31, 63 [IMAGE AVAILABLE]

48. 4,952,033, Aug. 28, 1990, **Liquid crystal** medical device; Frederick Davis, 358/300; 347/232; 349/20, 78, 83, 185, 199; 374/162 [IMAGE AVAILABLE]

49. 4,945,919, Aug. 7, 1990, Rhinological diagnostic device; Akira Hattori, 600/549; 374/162, 186; 600/529 [IMAGE AVAILABLE]

50. 4,912,011, Mar. 27, 1990, Image-recording method comprising heating a light-sensitive material containing microcapsule; Soichiro Yamamoto, et al., 430/138, 203, 253, 254, 281.1, 292, 617; D8/1 [IMAGE AVAILABLE]

51. 4,902,604, Feb. 20, 1990, Photopolymerizable composition containing salts of organic cationic dyes and organic boron compounds; Jun Yamaguchi, et al., 430/281.1, 138, 339, 341, 495.1, 914, 916, 927; 544/251, 345; 548/152, 217, 302.1, 302.7 [IMAGE AVAILABLE]

52. 4,902,599, Feb. 20, 1990, Light-sensitive material; Soichiro Yamamoto, et al., 430/138, 203, 264, 281.1, 617, 619, 620, 964 [IMAGE AVAILABLE]

53. 4,863,282, Sep. 5, 1989, Sun heat radiation sensor; Colin D. Rickson, 374/162; 250/372, 474.1 [IMAGE AVAILABLE]

54. 4,835,475, May 30, 1989, Battery tester including a **thermochromic** material; Niichi Hanakura, et al., 324/435; 345/106 [IMAGE AVAILABLE]

55. 4,792,514, Dec. 20, 1988, Light-sensitive material; Taku Nakamura, et al., 430/138, 203, 264, 351, 559, 617, 619, 620, 964 [IMAGE AVAILABLE]

56. 4,629,676, Dec. 16, 1986, Image forming method; Yoshihide Hayakawa, et al., 430/203, 199, 292, 325, 330, 351 [IMAGE AVAILABLE]

57. 4,560,286, Dec. 24, 1985, Optical temperature measurement techniques utilizing phosphors; Kenneth A. Wickersheim, 374/131; 250/461.1; 374/141, 159; 600/549 [IMAGE AVAILABLE]

58. 4,448,547, May 15, 1984, Optical temperature measurement technique

utilizing phosphors; Kenneth A. Wickersheim, 374/131; 250/337, 461.1;  
374/121, 137, 141, 159 [IMAGE AVAILABLE]

59. 4,421,560, Dec. 20, 1983, Thermochromatic materials; Tutomu Kito, et  
al., 106/31.2, 31.22, 31.33; 427/150, 151 [IMAGE AVAILABLE]

60. 4,358,955, Nov. 16, 1982, Liquid level gauge; Joseph M. Rait,  
73/295, 292; 248/904; 374/142 [IMAGE AVAILABLE]

61. 4,028,118, Jun. 7, 1977, **Thermochromic** materials; Norikazu  
Nakasuji, et al., 106/31.19; 428/29, 199, 913; 434/328; 503/209, 217,  
220, 221 [IMAGE AVAILABLE]

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=> s thermochromic

L1 836 THERMOCHROMIC

=> s protective layer

194443 PROTECTIVE  
 567656 LAYER  
 L2 25211 PROTECTIVE LAYER  
 (PROTECTIVE (W) LAYER)

=> s l1 and l2

L3 156 L1 AND L2

=> s l3 and (acrylic or acrylate)

117769 ACRYLIC  
 70789 ACRYLATE  
 L4 94 L3 AND (ACRYLIC OR ACRYLATE)

=> s l4 and fiberglass

31419 FIBERGLASS  
 L5 2 L4 AND FIBERGLASS

=> s l4 and metal

849037 METAL  
 L6 83 L4 AND METAL

=> d 15 1-2

1. 5,918,981, Jul. 6, 1999, Devices for rapid temperature detection;  
 Hans O. Ribí, 374/162; 116/217; 374/106 [IMAGE AVAILABLE]

2. 5,685,641, Nov. 11, 1997, Devices for rapid temperature detection;  
 Hans O. Ribí, 374/162; 116/217; 374/106 [IMAGE AVAILABLE]

=> d 14 1-20

1. 5,925,480, Jul. 20, 1999, **Thermochromic** battery tester; James H.  
 Shacklett, III, et al., 429/93; 324/427, 435 [IMAGE AVAILABLE]

2. 5,918,981, Jul. 6, 1999, Devices for rapid temperature detection;  
 Hans O. Ribí, 374/162; 116/217; 374/106 [IMAGE AVAILABLE]

3. 5,817,389, Oct. 6, 1998, Optical disk; Masumi Ono, 428/64.1; 369/283,  
 288; 428/64.4, 64.5, 64.6, 64.7, 64.8, 913; 430/270.13, 270.14, 495.1,  
 945 [IMAGE AVAILABLE]

4. 5,789,100, Aug. 4, 1998, Battery with strength indicator; James R.  
 Burroughs, et al., 429/90; 324/435; 429/92, 93 [IMAGE AVAILABLE]

5. 5,721,059, Feb. 24, 1998, Temperature-dependent color/transparency storing resin composition and laminate member employing the same; Tsutomu Kito, et al., 428/522; 252/583; 428/520, 913; 523/206; 524/99, 563 [IMAGE AVAILABLE]

6. 5,716,679, Feb. 10, 1998, Optical elements containing nanoscaled particles and having an embossed surface and process for their preparation; Herbert Krug, et al., 427/515, 164, 277, 517 [IMAGE AVAILABLE]

7. 5,712,066, Jan. 27, 1998, Image forming method, recording medium, and visible image reproducing method; Kazuo Yoshinaga, et al., 430/20; 349/21, 25, 183; 365/108; 430/902 [IMAGE AVAILABLE]

8. 5,685,641, Nov. 11, 1997, Devices for rapid temperature detection; Hans O. Ribl, 374/162; 116/217; 374/106 [IMAGE AVAILABLE]

9. 5,604,049, Feb. 18, 1997, Battery with tester label and method for producing it; Victor H. Weiss, et al., 429/93; 324/345, 435; 429/90, 91, 92 [IMAGE AVAILABLE]

10. 5,585,425, Dec. 17, 1996, **Thermochromic** opaque/transparent composition, laminate member employing the same, and three-dimensional member employing said laminate member and capable of concealing and revealing the interior; Tsutomu Kito, et al., 524/324; 428/520, 522; 524/343 [IMAGE AVAILABLE]

11. 5,585,320, Dec. 17, 1996, Reversible thermosensitive coloring recording method, recording medium and recording apparatus for the recording method; Kyoji Tsutsui, et al., 503/204, 201, 215, 226 [IMAGE AVAILABLE]

12. 5,573,848, Nov. 12, 1996, Article and method for applying a temperature indicating composition; Dirk J. Van Praet, 428/354, 343, 355AC, 355R, 913 [IMAGE AVAILABLE]

13. 5,552,364, Sep. 3, 1996, Reversible thermosensitive coloring recording method, recording medium and recording apparatus for the recording method; Kyoji Tsutsui, et al., 503/201; 347/172, 174, 175, 221; 503/204, 226 [IMAGE AVAILABLE]

14. 5,543,246, Aug. 6, 1996, Battery tester adhesive system; Jack Treger, 429/90; 324/345, 435; 349/199; 429/93, 170, 178 [IMAGE AVAILABLE]

15. 5,534,907, Jul. 9, 1996, Reversible thermosensitive coloring recording method, recording medium and recording apparatus for the recording method; Kyoji Tsutsui, et al., 347/175, 172, 174, 221 [IMAGE AVAILABLE]

16. 5,532,373, Jul. 2, 1996, Aluminate complex and use thereof in photopolymerizable composition and image-forming material; Hirotaka Matsumoto, et al., 546/4; 430/281.1, 332; 544/4, 64, 181, 225; 546/8; 548/103, 107, 402; 549/3, 209, 212; 556/170, 175, 176, 181, 182 [IMAGE AVAILABLE]

17. 5,527,650, Jun. 18, 1996, Image forming method recording medium and visible image reproducing medium; Kazuo Yoshinaga, et al., 430/20; 346/135.1; 349/22, 113, 116, 181; 365/108; 430/281.1, 945 [IMAGE AVAILABLE]

18. 5,490,956, Feb. 13, 1996, **Thermochromic** opaque composition, laminate member employing the same, and three-dimensional member employing said laminate member and capable of concealing and revealing the interior; Tsutomu Kito, et al., 252/583; 106/493, 499; 252/962 [IMAGE AVAILABLE]

19. 5,466,654, Nov. 14, 1995, Erasable display medium; Eiichi Akutsu, et al., 503/206, 201, 207, 226 [IMAGE AVAILABLE]

20. 5,411,777, May 2, 1995, Heat shrinkable protective sheets; Robert E. Steele, et al., 428/34.9; 138/104, 109, 128, 156, 170; 174/DIG.8; 428/35.1, 35.2, 57, 192, 195, 212, 215, 349, 500, 913 [IMAGE AVAILABLE]

=> d 14 21-40

21. 5,403,039, Apr. 4, 1995, Tamper-resistant article and method of authenticating the same; Joseph C. Borowski, Jr., et al., 283/87, 93, 94, 903; 349/1; 359/288 [IMAGE AVAILABLE]

22. 5,389,458, Feb. 14, 1995, Battery with tester label and method for producing it; Victor H. Weiss, et al., 429/90; 324/425, 427 [IMAGE AVAILABLE]

23. 5,296,331, Mar. 22, 1994, Image receiving material containing particles of thermoplastic compound; Keiichi Taguchi, 430/253; 427/180, 195; 428/206, 304.4, 308.4, 315.7, 407; 430/138, 203, 207, 213, 254, 255; 503/207, 214 [IMAGE AVAILABLE]

24. 5,230,981, Jul. 27, 1993, Image recording process using silver halide, reducing agent and photopolymerization initiator; Naoki Saito, et al., 430/138, 264, 270.1, 281.1, 394, 917, 918 [IMAGE AVAILABLE]

25. 5,223,003, Jun. 29, 1993, Process for preparing a battery tester label; Gary R. Tucholski, et al., 29/623.4, 623.5; 429/93 [IMAGE AVAILABLE]

26. 5,193,854, Mar. 16, 1993, Tamper-resistant article and method of authenticating the same; Joseph C. Borowski, Jr., et al., 283/87, 93, 94, 902, 903; 349/199; 359/288 [IMAGE AVAILABLE]

27. 5,175,032, Dec. 29, 1992, Heat shrinkable closure sheets and sleeve structures and methods employing the same; Robert E. Steele, et al., 428/34.9; 138/104, 155; 156/86, 308.4; 174/DIG.8; 428/36.9, 57, 192, 349, 913 [IMAGE AVAILABLE]

28. 5,169,744, Dec. 8, 1992, Infra-red laser beam sensitive recording material; Luc H. Leenders, et al., 430/270.17; 346/135.1; 430/944, 945 [IMAGE AVAILABLE]

29. 5,153,106, Oct. 6, 1992, Direct color imaging with laser in a writing mode; Kou-Chang Liu, 430/340, 270.1, 346, 945, 964 [IMAGE AVAILABLE]

30. 5,149,617, Sep. 22, 1992, Imageable diacetylene ethers; Kou-Chang Liu, 430/346, 270.1, 281.1, 495.1 [IMAGE AVAILABLE]

31. 5,124,236, Jun. 23, 1992, Photopolymerizable composition; Jun Yamaguchi, et al., 430/281.1, 914, 920, 921; 522/26, 27, 28 [IMAGE AVAILABLE]

32. 5,095,134, Mar. 10, 1992, **Thermochromic** diacetylene ethers containing ester or urethane groups; Kou-Chang Liu, 560/24; 430/284.1, 286.1; 560/104, 105, 112, 113, 157, 166, 224, 225, 261, 262 [IMAGE AVAILABLE]

33. 5,089,370, Feb. 18, 1992, Light-sensitive material comprising light-sensitive layer provided on support; Shigehisa Tamagawa, et al., 430/138, 203, 270.1, 538 [IMAGE AVAILABLE]

34. 5,045,427, Sep. 3, 1991, Photographic material containing non-photosensitive silver salt; Hiroshi Hara, 430/138, 203, 351, 617, 619 [IMAGE AVAILABLE]

35. 5,039,589, Aug. 13, 1991, Light-sensitive material containing silver halide, reducing agent, polymerizable compound and base precursor dispersed in the polymerizable compound; Ryuichi Takahashi, 430/138, 203, 281.1, 617, 619 [IMAGE AVAILABLE]

36. 5,038,166, Aug. 6, 1991, Optical image recording apparatus; Kazuo Isaka, et al., 347/225; 355/405 [IMAGE AVAILABLE]

37. 5,035,975, Jul. 30, 1991, Light-sensitive material containing silver halide reducing agent and polymerizable compound; Ryuichi Takahashi, et al., 430/138; 264/4.32, 4.33, 4.7; 428/402.21, 402.22; 430/627, 629, 636 [IMAGE AVAILABLE]

38. 5,030,543, Jul. 9, 1991, Light-sensitive material containing silver halide, reducing agent and polymerizable compound; Toshiyuki Watanabe, 430/138, 203, 253, 281.1, 292, 510, 512 [IMAGE AVAILABLE]

39. 5,030,542, Jul. 9, 1991, Light-sensitive material containing silver halide, hydrazine derivative and polymerizable compound; Koichi Nakamura, et al., 430/138, 264, 405, 436, 598, 599 [IMAGE AVAILABLE]

40. 5,021,319, Jun. 4, 1991, Light-sensitive material containing silver halide, reducing agent, polymerizable compound and a fluorine atom-containing compound; Fujio Kakimi, 430/138, 203, 281.1, 527 [IMAGE AVAILABLE]

=> d 14 41-60

41. 5,011,760, Apr. 30, 1991, Photopolymerizable composition; Jun Yamaguchi, et al., 430/281.1, 914, 915, 920; 522/31, 63 [IMAGE AVAILABLE]

42. 4,983,489, Jan. 8, 1991, Image-forming method using silver halide and polymerizable compound with development inhibitor releaser; Makoto Yamada, et al., 430/138, 203, 253, 254, 264, 327, 330, 617, 957 [IMAGE AVAILABLE]

43. 4,981,965, Jan. 1, 1991, Process for formation of base; Yoshiharu Yabuki, et al., 544/196, 402; 546/306; 548/312.7; 564/236 [IMAGE AVAILABLE]

44. 4,977,057, Dec. 11, 1990, Image-forming method using silver halide and polymerizable compound; Shunichi Ishikawa, et al., 430/138, 203, 254, 264, 327, 330 [IMAGE AVAILABLE]

45. 4,970,307, Nov. 13, 1990, Process for formation of base and light-sensitive material; Keiji Takeda, et al., 540/579; 544/242, 282, 330, 352, 358; 546/152, 186, 242, 244, 304, 311, 348; 548/199, 335.1, 347.1; 564/225, 240, 241, 391 [IMAGE AVAILABLE]

46. 4,963,461, Oct. 16, 1990, Light-sensitive microcapsule and light-sensitive material employing the same; Ryuichi Takahashi, et al., 430/138; 428/402.21; 503/215 [IMAGE AVAILABLE]

47. 4,963,460, Oct. 16, 1990, Light-sensitive material containing silver halide, reducing agent and polymerizable compound with silver halide outside and inside of microcapsules; Yutaka Oka, 430/138, 203 [IMAGE AVAILABLE]

48. 4,963,458, Oct. 16, 1990, Image forming method and material using photopolymerizable composition; Shunichi Ishikawa, et al., 430/138, 200,

254, 293, 328, 330, 348, 349, 964; 503/214 [IMAGE AVAILABLE]

49. 4,956,227, Sep. 11, 1990, Laminated structure; Naoto Hirayama, et al., 428/331, 323, 328, 414, 425.5, 425.6, 437, 447, 483 [IMAGE AVAILABLE]

50. 4,952,480, Aug. 28, 1990, Photopolymerizable composition; Jun Yamaguchi, et al., 430/281.1, 914, 915; 522/31, 63 [IMAGE AVAILABLE]

51. 4,952,474, Aug. 28, 1990, Light-sensitive material containing silver halide, a disulfonamido reducing agent and polymerizable compound; Jiro Tsukahara, et al., 430/138, 203, 281.1, 617, 619, 620 [IMAGE AVAILABLE]

52. 4,945,025, Jul. 31, 1990, Light-sensitive material containing silver halide, reducing agent and polymerizable compound wherein the light-sensitive layer is provided with a cover sheet; Koichi Nakamura, 430/138, 270.1, 281.1, 523, 533, 535, 961 [IMAGE AVAILABLE]

53. 4,939,064, Jul. 3, 1990, Light-sensitive material containing silver halide, reducing agent, polymerizable compound and base precursor compound; Taku Nakamura, 430/138, 281.1, 617, 619, 955 [IMAGE AVAILABLE]

54. 4,939,063, Jul. 3, 1990, Light-sensitive material comprising light-sensitive layer provided on support comprising a coating layer containing a resin; Shigehisa Tamagawa, et al., 430/138; 427/145, 146, 147; 430/281.1, 531, 536, 538 [IMAGE AVAILABLE]

55. 4,933,256, Jun. 12, 1990, Image-forming method employing light-sensitive material having microcapsules and fine polymer particles and image-receiving material; Fujio Kakimi, 430/138, 203, 253, 254, 270.1, 281.1 [IMAGE AVAILABLE]

56. 4,927,731, May 22, 1990, Light-sensitive material containing silver halide, reducing agent, polymerizable compound, and polar compound; Ryuichi Takahashi, 430/138, 203, 617, 955 [IMAGE AVAILABLE]

57. 4,920,027, Apr. 24, 1990, Light-sensitive material containing silver halide, reducing agent and polymerizable compound; Fujio Kakimi, 430/138, 203, 254; 503/214 [IMAGE AVAILABLE]

58. 4,916,043, Apr. 10, 1990, Image-forming method employing light-sensitive material comprising the removal of water from the base paper support; Akihiko Nagumo, et al., 430/203, 253, 254, 349, 350, 538 [IMAGE AVAILABLE]

59. 4,913,999, Apr. 3, 1990, Light-sensitive material comprising light-sensitive layer provided on support where layer has specified ph; Shigehisa Tamagawa, et al., 430/138, 203, 270.1, 281.1, 538, 939; 503/200 [IMAGE AVAILABLE]

60. 4,912,011, Mar. 27, 1990, Image-recording method comprising heating a light-sensitive material containing microcapsule; Soichiro Yamamoto, et al., 430/138, 203, 253, 254, 281.1, 292, 617; D8/1 [IMAGE AVAILABLE]

=> d 14 61-94

61. 4,904,563, Feb. 27, 1990, Microcapsules and light-sensitive recording material using the same; Toshiaki Aoai, et al., 430/138; 428/402.2, 402.21, 402.22, 402.24; 430/270.1 [IMAGE AVAILABLE]

62. 4,904,561, Feb. 27, 1990, Light-sensitive material containing silver halide, reducing agent and polymerizable compound wherein the material is sensitive from only 600 nm to 950 nm; Soichiro Yamamoto, 430/138, 944, 945 [IMAGE AVAILABLE]

63. 4,902,604, Feb. 20, 1990, Photopolymerizable composition containing salts of organic cationic dyes and organic boron compounds; Jun Yamaguchi, et al., 430/281.1, 138, 339, 341, 495.1, 914, 916, 927; 544/251, 345; 548/152, 217, 302.1, 302.7 [IMAGE AVAILABLE]
64. 4,902,600, Feb. 20, 1990, Light-sensitive material comprising light-sensitive layer provided on support wherein the light-sensitive layer and support have specified pH values; Shigehisa Tamagawa, et al., 430/138, 203, 270.1, 281.1, 538, 939 [IMAGE AVAILABLE]
65. 4,902,599, Feb. 20, 1990, Light-sensitive material; Soichiro Yamamoto, et al., 430/138, 203, 264, 281.1, 617, 619, 620, 964 [IMAGE AVAILABLE]
66. 4,885,224, Dec. 5, 1989, Light-sensitive material containing silver halide, reducing agent, polymerizable compound and a decolorizable dye; Soichiro Yamamoto, et al., 430/138, 203, 270.1, 281.1, 510, 517 [IMAGE AVAILABLE]
67. 4,883,737, Nov. 28, 1989, Light-sensitive material containing silver halide, reducing agent and polymerizable compound and containing core/shell grains doped with iridium; Soichiro Yamamoto, 430/138, 270.1, 281.1, 567, 569 [IMAGE AVAILABLE]
68. 4,880,721, Nov. 14, 1989, Light-sensitive dual-walled microcapsule containing polymerizable compound and silver halide, and light-sensitive material employing the same; Shunichi Ishikawa, 430/138; 428/402.2, 402.21, 402.24; 430/270.1, 281.1 [IMAGE AVAILABLE]
69. 4,879,200, Nov. 7, 1989, Light-sensitive material containing silver halide, reducing agent, polymerizable compound, and a quaternary ammonium development accelerator; Yutaka Oka, 430/138, 203, 217, 253, 254, 270.1, 281.1, 487 [IMAGE AVAILABLE]
70. 4,876,170, Oct. 24, 1989, Light-sensitive material comprising light-sensitive layer containing microcapsules provided on specific paper support; Shigehisa Tamagawa, et al., 430/138, 203, 538 [IMAGE AVAILABLE]
71. 4,874,684, Oct. 17, 1989, Light-sensitive material containing silver halide, reducing agent and polymerizable compound in microcapsules separately sensitized; Soichiro Yamamoto, 430/138, 944 [IMAGE AVAILABLE]
72. 4,871,643, Oct. 3, 1989, Image-forming method employing light-sensitive material and image-receiving material comprising microcapsules and specified paper support; Shigehisa Tamagawa, et al., 430/138; 428/537.1, 537.5; 430/203, 253, 254, 538 [IMAGE AVAILABLE]
73. 4,871,642, Oct. 3, 1989, Light-sensitive material comprising light-sensitive layer provided on a support comprising a water resistant coating layer; Shigehisa Tamagawa, et al., 430/138, 203, 281.1, 292, 523, 538 [IMAGE AVAILABLE]
74. 4,868,087, Sep. 19, 1989, Light-sensitive material containing silver halide, reducing agent and polymerizable compound and further comprising a white pigment; Soichiro Yamamoto, 430/138, 203, 220, 517 [IMAGE AVAILABLE]
75. 4,865,941, Sep. 12, 1989, Image-forming method employing light-sensitive material having a specified paper support; Shigehisa Tamagawa, et al., 430/138, 203, 212, 213, 253, 254, 538 [IMAGE AVAILABLE]
76. 4,861,696, Aug. 29, 1989, Light-sensitive material comprising light-sensitive layer provided on support having low air permeability; Shigehisa Tamagawa, et al., 430/138, 203, 270.1, 281.1, 538 [IMAGE AVAILABLE]



AVAILABLE]

77. 4,853,312, Aug. 1, 1989, Material with pH not higher than 7 containing silver halide, reducing agent and polymerizable compound; Makoto Yamada, 430/138, 203, 254, 264, 330, 607 [IMAGE AVAILABLE]

78. 4,842,977, Jun. 27, 1989, Light-sensitive material containing silver halide, reducing agent, polymerizable compound and a base or base precursor; Fujio Kakimi, 430/138, 203, 617, 955 [IMAGE AVAILABLE]

79. 4,835,475, May 30, 1989, Battery tester including a **thermochromic** material; Niichi Hanakura, et al., 324/435; 345/106 [IMAGE AVAILABLE]

80. 4,835,272, May 30, 1989, Process for formation of base and light-sensitive material; Kozo Sato, et al., 544/158; 260/665R; 546/181, 290, 350; 548/136, 152, 165, 202, 445, 480; 549/80, 506; 560/104; 564/90, 218, 305 [IMAGE AVAILABLE]

81. 4,835,048, May 30, 1989, Optical information recording card using phase separation of polymer blend; Kazuhiko Maeda, et al., 428/323; 346/135.1; 347/264; 428/336, 421, 463, 913; 430/270.12, 945 [IMAGE AVAILABLE]

82. 4,830,947, May 16, 1989, Light-sensitive material containing silver halide, reducing agent and polymerizable compound; Yutaka Oka, 430/138, 220, 281.1, 292, 539, 545, 905, 909 [IMAGE AVAILABLE]

83. 4,814,252, Mar. 21, 1989, Light-sensitive material comprising light-sensitive layer provided on a paper support having a smooth surface on both sides; Shigehisa Tamagawa, et al., 430/138, 253, 254, 270.1, 281.1, 292, 538 [IMAGE AVAILABLE]

84. 4,797,343, Jan. 10, 1989, Light-sensitive material containing silver halide, reducing agent and polymerizable compound; Taku Nakamura, 430/138, 203, 264, 271.1, 281.1, 617, 955 [IMAGE AVAILABLE]

85. 4,792,514, Dec. 20, 1988, Light-sensitive material; Taku Nakamura, et al., 430/138, 203, 264, 351, 559, 617, 619, 620, 964 [IMAGE AVAILABLE]

86. 4,788,151, Nov. 29, 1988, Metal complexed acetylenic compounds useful as environmental indicating materials; Anthony F. Preziosi, et al., 436/2; 116/206, 207, 217; 252/408.1; 422/56, 57, 58; 556/81, 110, 118; 560/314; 564/48, 57, 58, 60 [IMAGE AVAILABLE]

87. 4,767,690, Aug. 30, 1988, Light-sensitive material containing silver halide, reducing agent and polymerizable compound; Soichiro Yamamoto, 430/138, 264, 270.1, 281.1 [IMAGE AVAILABLE]

88. 4,734,359, Mar. 29, 1988, Thermal recording material for display and image display device utilizing the same; Yoshihiro Oguchi, et al., 346/135.1, 21; 428/195, 913; 430/286.1; 503/200, 201 [IMAGE AVAILABLE]

89. 4,629,676, Dec. 16, 1986, Image forming method; Yoshihide Hayakawa, et al., 430/203, 199, 292, 325, 330, 351 [IMAGE AVAILABLE]

90. 4,555,471, Nov. 26, 1985, Image-recording materials and image-recording carried out using these; Helmut Barzynski, et al., 430/273.1; 428/913; 430/270.1, 281.1, 286.1, 302, 309, 325, 330, 346, 495.1, 945; 503/200, 216 [IMAGE AVAILABLE]

91. 4,515,877, May 7, 1985, Image-recording materials and image-recording carried out using these to produce an optical mask; Helmut Barzynski, et al., 430/5; 428/913; 430/156, 270.1, 330, 346, 495.1, 945; 503/200; 522/2, 907 [IMAGE AVAILABLE]

92. 4,425,161, Jan. 10, 1984, **Thermochromic** materials; Yutaka Shibahashi, et al., 106/31.17, 31.19, 31.24, 31.33; 427/148, 150 [IMAGE AVAILABLE]

93. 4,421,560, Dec. 20, 1983, Thermochromatic materials; Tutomu Kito, et al., 106/31.2, 31.22, 31.33; 427/150, 151 [IMAGE AVAILABLE]

94. 4,028,118, Jun. 7, 1977, **Thermochromic** materials; Norikazu Nakasuji, et al., 106/31.19; 428/29, 199, 913; 434/328; 503/209, 217, 220, 221 [IMAGE AVAILABLE]